

Notice of Allowability

Application No.

10/649,355

Examiner

Henry S. Hu

Applicant(s)

ESCHBACH ET AL.

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Appeal Brief of May 10, 2007.
2. ☒ The allowed claim(s) is/are 1-17 and 33-38.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

1. This Office Action is in response to **Appeal Brief and Amendment** (after Final) filed on May 10, 2007 and December 8, 2006 respectively. With such an amendment (after final), Claim 12 was amended, while no claim was cancelled or added. To be more specific, dependent Claim 12 was amended so as to remove the "typographical" error on using "flexible" language on recticle article. **Claims 1-17 and 33-38** with only one independent claim (Claim 1) are now pending. An action follows.

2. Claim rejections under **Final** Office Action filed on September 8, 2006 are now removed for the reasons given in paragraphs 3-11 thereafter.

Allowable Subject Matter

3. Claims 1-17 and 33-38 are allowed.

4. The following is an examiner's statement of reasons for allowance: The above Claims 1-17 and 33-38 are allowed over the closest references:

5. The limitation of parent **Claim 1** in present invention relates to a method comprising:

(A) clamping a flexible pellicle between a first frame member and a second frame member, wherein the first frame member and the second frame member join to form a pellicle frame;

(B) mounting the pellicle frame to a reticle by attaching at least one of the first frame member and second frame member to the reticle; and

(C) lithographically exposing a substrate to a pattern on the reticle with the pellicle frame mounted to the reticle.

See other limitations of dependent Claims 2-17 and 33-38.

6. Applicants have now claimed in once-amended parent **Claim 1** an unexpected way of obtaining a flexible pellicle by three-step process involving: (A) clamping pellicle to be between two frames, then (B) mounting the frame(s) to a reticle, and finally (C) lithographically exposing through a reticle pattern.

As exactly pointed out by Applicants on page 9 at bottom section of Remarks in Appeal Brief, Ikeda maintains a one pellicle-to-one frame ratio particularly as shown in Figure 2 as well as may be throughout the specification in other figures. Two pellicles are actually mounted in the mask of Figure 2. In view of Applicants' Figures 2B, 4B and 5B with Ikeda's Figure 5B, it is a fact is that Ikeda's two pellicles cannot be located exactly in the middle of two-frame structure.

Art Unit: 1713

7. As discussed earlier in Final office action at paragraph 10, Ikeda may disclose in **Figure 2** and may be in other figures that **either two pellicle membranes or one single pellicle membrane can be mounted on two frames** (column 4, line 47 – column 5, line 10; see using **two different frames** on column 5, line 53-65). However, even in the rare case that Ikeda may have used only one pellicle in between two frames, Ikeda is still silent about “using the clamp method so as to mount a pellicle so as to be in between two frames”.

Therefore, although two frames and may be used together with one single pellicle or two pellicles, both 102 and 103 rejections cannot stand since the primary reference Ikeda’s pellicle mounting systems 60 are used to “**press a pellicle**” to a photomask 10 during mounting (see Ikeda at column 1, line 35-51; also see Figure 2 and column 4, line 47-54). **No clamping method is specifically disclosed or suggested** as Applicants’ **Figures 2B, 4B and 5B**.

Additionally, Ikeda cannot teach using flexible pellicle.

8. All the four secondary references including **Cotte, Matsukura, Keys and Hamada** as well as the one tertiary reference **Nguyen** in combination or alone cannot fix the deficiency of Ikeda. See the detailed discussion on page 10 at bottom section to page 11 at top section of Remarks. In summary, one of ordinary skill in the art who read the references would find no reason to depart from the **gluing of one pellicle to one frame** described in the other references. It is noted that the clamping as known in the art is different from pressing, gluing or other method. It requires different conditions including architecture, set up, and the sequence of

Art Unit: 1713

operation. As known in the art, **the pellicle held by clamping can be easily replaced or readjusted.**

9. Additionally, the present invention has shown **unexpected results** in examples along with some comparative examples for making such a flexible pellicle (see pages 3-17 along with Figures 1-11). Therefore, all the above-mentioned references, in combination or alone, does not teach or fairly suggest the limitations of present invention.

10. After further examination and search, the examiner found the following prior art did not teach the claimed limitation:

US 4,737,387 to Yen (or its equivalent EP 252,673 A2) only discloses a process to **prepare a removable pellicle by mounting a pellicle membrane on two connected frames** (abstract, line 1-10; column 2, line 10-39). To be specific, see Figure 2 for pellicle membrane (18) is mounted directly on a first frame (16) and a second frame (14). Although two frames are used, **Yen's pellicle membrane is not in between two frames.** No clamp is disclosed or suggested. Therefore, Yen fails to teach or fairly suggest the process of clamp-mounting pellicle of present invention.

US 5,958,631 to Acosta et al. only discloses a process to **prepare a removable pellicle by mounting a pellicle membrane on two connected frames** (see Acosta's Claims 10-11; column 6, line 29-53; also see figures). However, **no clamp is disclosed or suggested.**

Art Unit: 1713

Therefore, Acosta fails to teach or fairly suggest the process of clamp-mounting pellicle of present invention.

11. The key issue on the process of making a flexible pellicle by three-step process involving a key step of clamping flexible pellicle to be in between two frames, cannot be overcome by any or the combination of the above references, therefore, the present invention is novel.

12. As of the date of this office action, the examiner has not located or identified any reference that can be used singularly or in combination with another reference including the above references to render the present invention anticipated or obvious to one of the ordinary skill in the art. Therefore, the independent and parent process **Claim 1** is allowed for the reason listed above. Since the prior art of record fails to teach the present invention, the remaining pending dependent **Claims 2-17 and 33-38** are passed to issue.

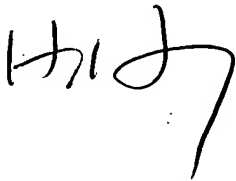
13. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Dr. Henry S. Hu** whose telephone number is **(571) 272-1103**. The examiner can be reached on Monday through Friday from 9:00 AM –5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (571) 272-1114. The fax number for the organization

Art Unit: 1713

where this application or proceeding is assigned is (571) 273-8300 for all regular communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Henry S. Hu

Patent Examiner, art unit 1713, USPTO

August 10, 2007



DAVID W. WU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700